

# Bhoj Reddy Engineering College for Women: Hyderabad

Department of Electronics and Communication Engineering

Lesson plan of faculty member for the academic year 2017–18

Class: III B Tech

Branch-Section: EEE

Semester: I

Subject: Integrated Circuit Applications

Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
<b>UNIT – I: Integrated Circuits</b>		
1	Introduction and classification	13 July2017
2	Chip size and circuit complexity, classification of integrated circuits	15 July2017
3	Tutorial (G3,G2,G1) - Problems related to TTL	13,14,15 July 2017
4	Comparison of various logic families	18 July2017
5	Standard TTL NAND gate-Analysis and Characteristics	20 July2017
6	TTL open collector output, Tristate TTL	22 July 2017
7	Tutorial (G3, G2, G1) – Problems related to TTL	20, 21,22 July 2017
8	MOS& CMOS open drain	24 July 2017
9	Tri-state outputs	25 July2017
10	CMOS transmission gate	27 July2017
11	IC Interfacing -TTL driving CMOS	29 July 2017
12	Tutorial (G3, G2, G1) – Problems related to TTL	27, 28,29 July 2017
13	CMOS driving TTL	31 July 2017
<b>UNIT-II: OP-AMP and Applications</b>		
14	Basic information of OP-AMP	1 August2017
15	Ideal and Practical OP-AMP, internal circuits	3 August2017
16	OP-AMP Characteristics-DC Characteristics	5 August 2017
17	Tutorial (G3, G2, G1) – Problems related of OP-AMP	3, 4, 5 August 2017
18	AC Characteristics	7 August 2017
19	OP-AMP Characteristics-DC Characteristics	8 August2017
20	AC Characteristics	10August 2017
21	741 OP-AMP and its features	12 August2017
22	Tutorial (G2, G1) - Problems related to OP-AMP	10,11,12 August 2017
23	Modes of Operations-inverting and non-inverting	17 August 2017
24	Modes of Operations-inverting and non-inverting	19 August2017
25	Tutorial (G2, G1) - Problems related to OP-AMP	17,18,19 August 2017
26	Differential amplifier	21 August2017
27	Basic applications of OP-AMP	22 August 2017
28	Instrumentation Amplifier	24 August 2017
29	ac amplifier	26 August 2017
30	Tutorial (G3, G2, G1) – Applications of OP-AMP	24, 26 August 2017
31	V-I and I-V converter	28 August 2017
32	Sample and hold circuits, multipliers and Dividers	29 August 2017
33	Differentiators and integrators	31 August 2017
34	Tutorial (G3, G1) – Applications of OP-AMP	31 August,1 September
35	Comparators	4 September 2017
36	Introduction to Voltage Regulators	5 September2017
<b>UNIT-III: Active Filters&amp; Oscillators</b>		
37	Introduction,1 order LPF,HPF filters	9 September 2017
38	Tutorial (G1) – Applications of OP-AMP	9 September 2017
39	Band pass, Band reject Filters, All Pass Filters	11 September 2017
40	Oscillator Types	12 September 2017
41	Principle of Operation –RC, Wien Quadrature type	14 September 2017
42	Waveform Generators-triangular	16 September 2017
43	Tutorial (G2, G3, G1) - Problems related to Filters	14, 15, 16 September 2017
44	Saw tooth, Square wave generator	18 September 2017
45	VCO	19 September 2017

<b>UNIT-IV: Timers and Phased Locked Loops</b>		
46	Introduction to 555 Timer	21 September 2017
47	Functional Diagram	23 September 2017
48	Tutorial (G2, G3, G1) - Problems related to Timers	21, 22, 23 September 2017
49	Monostable operations	3 October 2017
50	Astable operation	5 October 2017
51	Applications	7 October 2017
52	Tutorial (G2, G3, G1) –Problems related to waveform generators	5,6,7 October 2017
53	Schmitt Trigger	9 October 2017
54	PLL Block diagram and Introduction	10 October 2017
55	Principle of PLL	12 October 2017
56	Description of individual block of PLL	14 October 2017
57	Tutorial (G2, G3, G1) –Problems related to PLL	12,13,14 October 2017
<b>UNIT-V: D-A and A-D Converters</b>		
58	Introduction	16 October 2017
59	Basic DAC Techniques	17 October 2017
60	Weighted resistor DAC	19 October 2017
61	R-2R Ladder DAC	21 October 2017
62	Tutorial (G2, G3, G1) –Problems related to DAC	19,20,21 October 2017
63	Inverted R-2R DAC	23 October 2017
64	IC 1408 DAC	24 October 2017
65	Different types of ACD	26 October 2017
66	Parallel comparator type ADC	28 October 2017
67	Tutorial (G2, G3, G1) –Problems related to ADC	26,27,28 October 2017
68	Counter type ADC	30 October 2017
69	Successive Approximation ADC	31 October 2017
70	Dual Slope ADC	3 November 2017
71	Tutorial (G3, G2) –Problems related to ADC	2,3 November 2017
72	ADC and DAC Specifications	6 November 2017
73	Revision	7 November 2017

**Text books:**

1. Operational Amplifiers & Linear Integrated Circuits, Robert F. Coughlin Fredrick f.Driscoll,PHI.
2. Operational Amplifiers & Linear Integrated Circuits: Theory and Applications, Denton J Daibey, TMH.
3. Design with Operational Amplifiers & Analog Integrated Circuits Sergio Franco, McGraw Hill.
4. Digital Fundamentals –Floyd and Jain.

Name and signature of the faculty: MsNazma Sultana ----

Name and signature of Head of the Department: Ms N Shribala ----